

**Conservation Estate Portfolio for the  
Golden-winged Warbler  
(*Vermivora chrysoptera*)**

**Bird Conservation Region 23  
(Prairie Hardwood Transition)**



Photo by C.S. Robbins

<http://www.mbr-pwrc.usgs.gov/id/framlst/i6420id.html>

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## **Preface**

Mapped patterns in the distribution and abundance of rare or focal species can be useful in identifying priority areas for conservation. We have modeled and mapped rare bird abundance in the upper midwestern United States for more than a dozen species of conservation concern. Our work has focused on the Prairie Hardwood Transition (Bird Conservation Region 23). This portfolio describes the conservation context of one species in the Prairie Hardwood Transition. We outlined areas of peak predicted abundance relative to federal, tribal, and state managed lands. This juxtaposition of predicted relative abundance and land management authorities is the conservation estate for this focal species. Identifying these land management authorities relative to areas in which the species is most abundant may help to focus conservation resources in those areas in which they may do the most good.

## **Data References**

Major Cities depicted using data acquired from the National Atlas of the United States web site (<http://nationalatlas.gov/mld/citiesx.html>). Major cities were determined to be those that had a population in 2000 of greater than 5,000 persons.

Major Roads depicted using data acquired from the National Atlas of the United States web site (<http://nationalatlas.gov/mld/roadtrl.html>). Roads were determined to be Major if they were classified as *Principal Highway* or *Limited Access Highway* according to the data field “Feature”.

States data were created by Geographic Data Technology, Inc. This data was published by Environmental Systems Research Institute (ESRI) and made available for distribution.

Counties data were acquired from the National Atlas of the United States web site (<http://www.nationalatlas.gov/mld/countyp.html>).

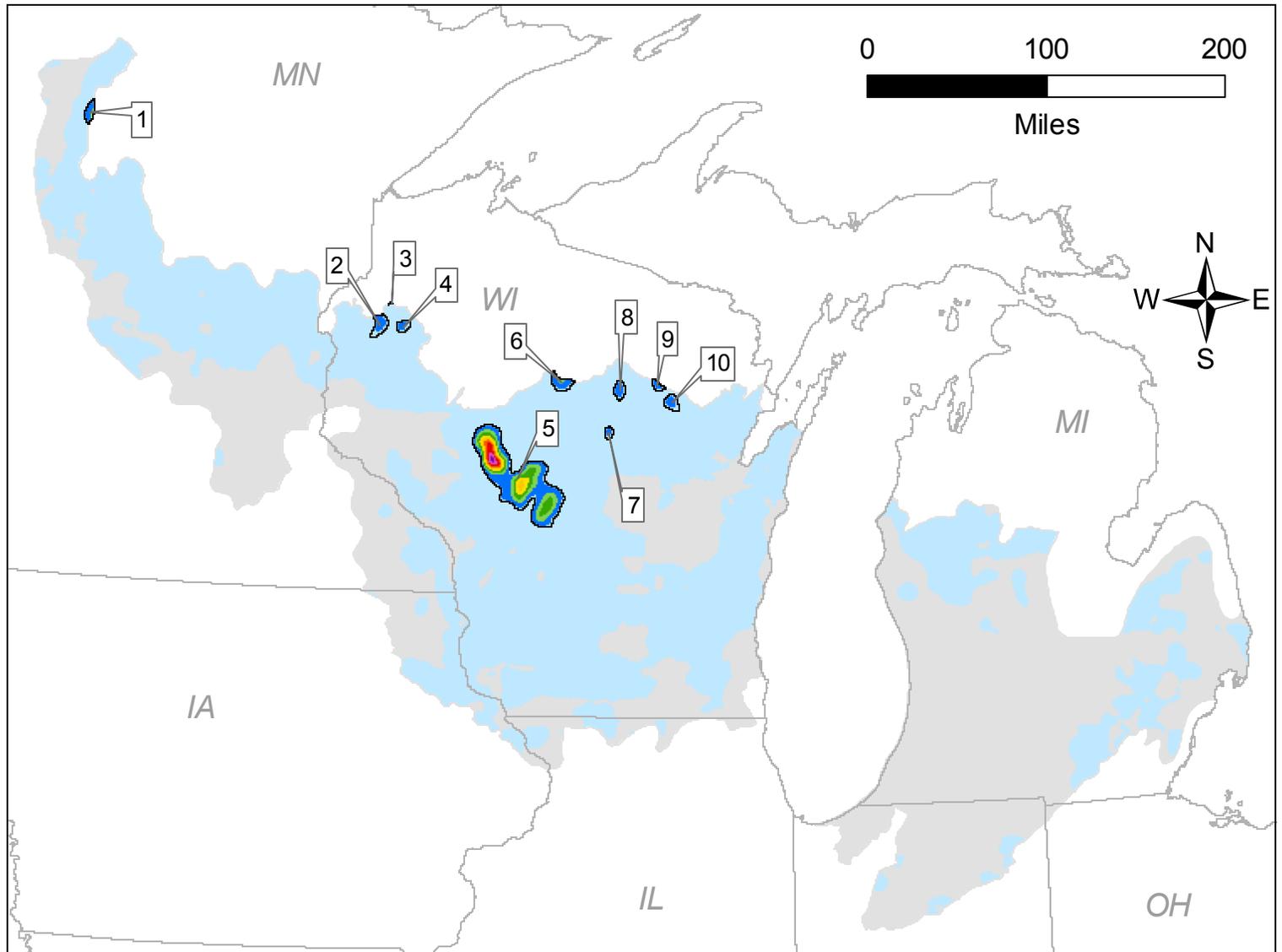
Federal and State lands depicted using Protected Areas Database, version 4: (<http://www.consbio.org/cbi/projects/PAD/index.htm>). Federal and State lands were identified based upon the data field “Owner”.

Tribal lands depicted using data acquired from the National Atlas of the United States web site (<http://www.nationalatlas.gov/mld/indlanp.html>).

## **Methodology**

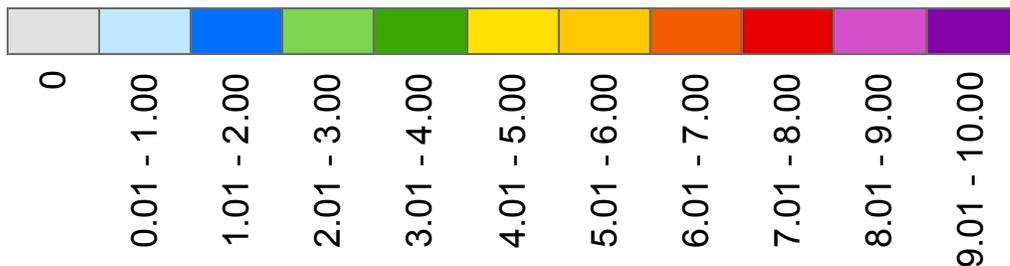
For detailed methodology on avian abundance modeling, see: [http://www.umesc.er.usgs.gov/terrestrial/migratory\\_birds/bird\\_conservation\\_methods.html](http://www.umesc.er.usgs.gov/terrestrial/migratory_birds/bird_conservation_methods.html)

# Predicted Relative Abundance and 10-Highest Peaks of Predicted Relative Abundance for the Golden-Winged Warbler



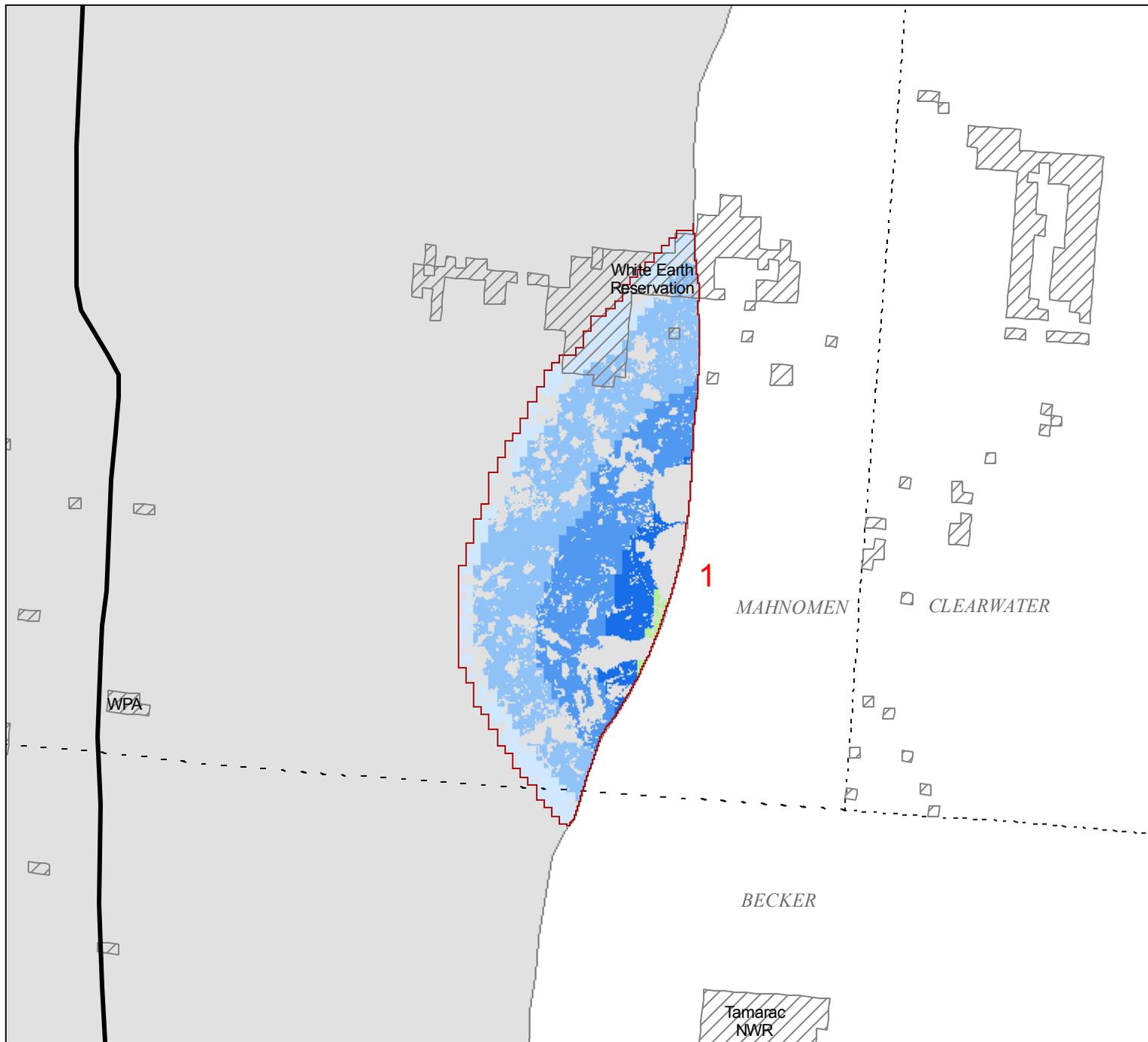
-  Top 10 Hotspots
-  States
-  Bird Conservation Region (BCR) 23 Boundary

Golden-winged Warbler Relative Abundance  
(Predicted Mean Count / Breeding Bird Survey)



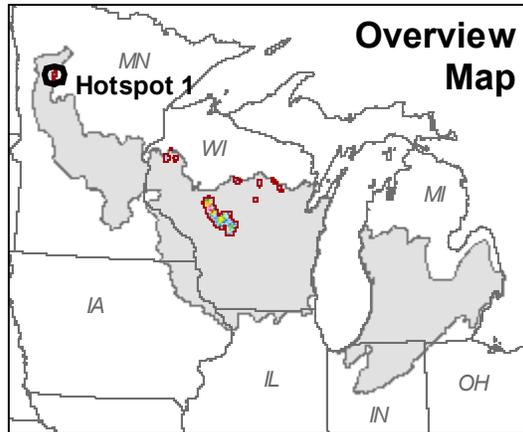
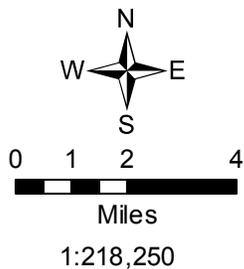
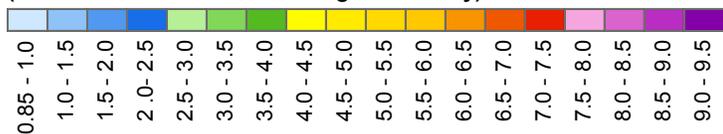
# Golden-Winged Warbler (GWWA) Predicted Relative Abundance Overlayed with Federal Lands

Hotspot 1



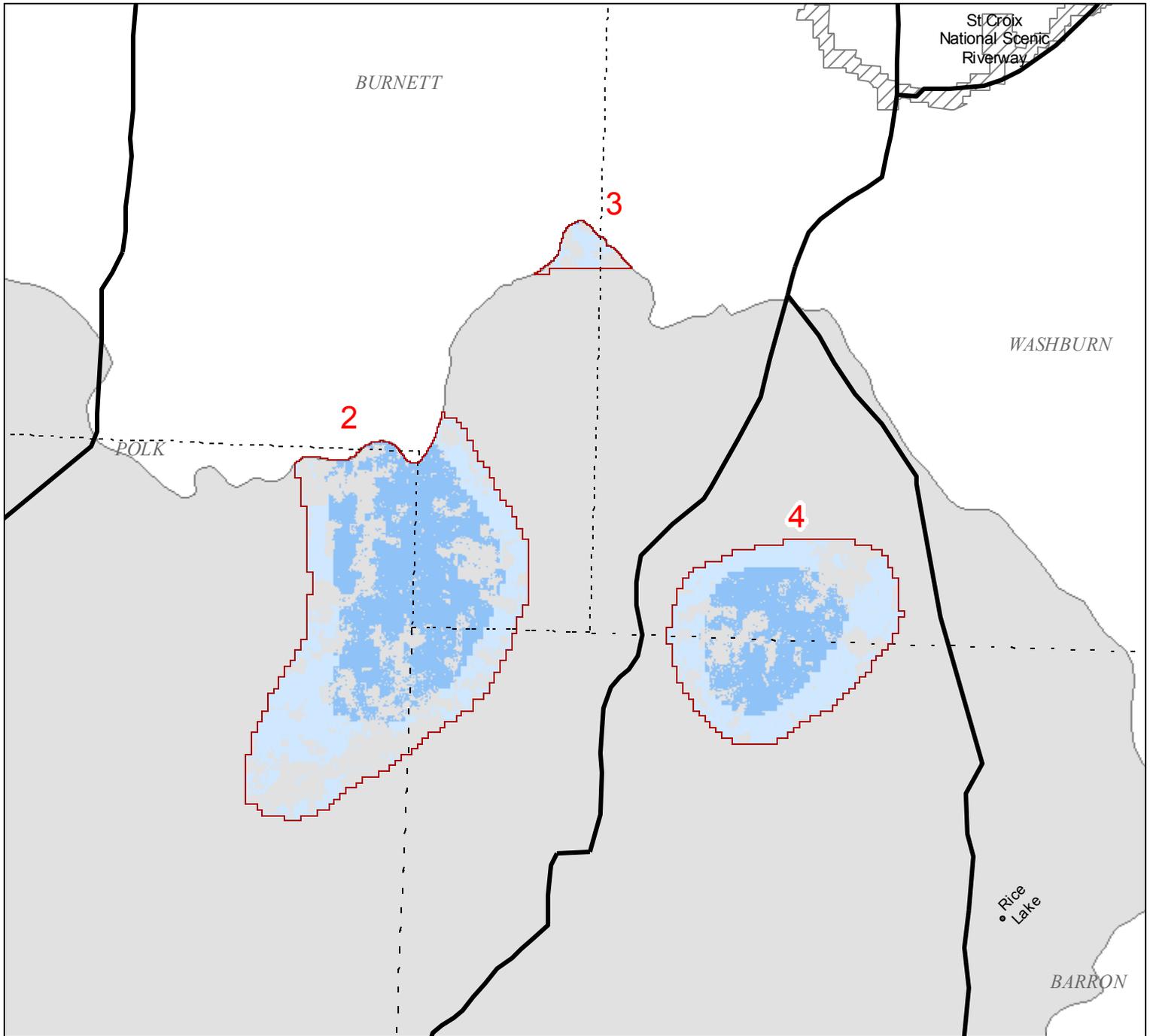
- Major Cities
- Major Roads
- ▭ Hotspot Boundaries
- ▭ States
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**Golden-winged Warbler Relative Abundance**  
(Predicted Mean Count / Breeding Bird Survey)



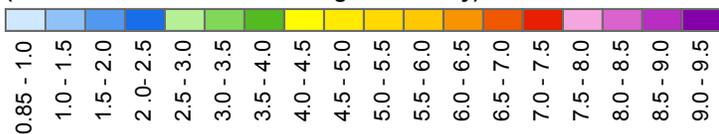
# Golden-Winged Warbler (GWWA) Predicted Relative Abundance Overlaid with Federal Lands

## Hotspots 2, 3, and 4



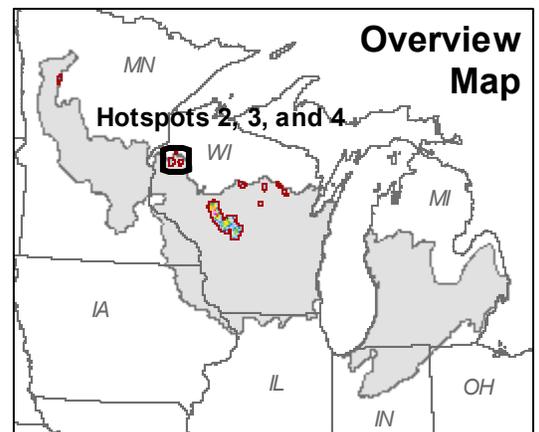
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### Golden-winged Warbler Relative Abundance (Predicted Mean Count / Breeding Bird Survey)



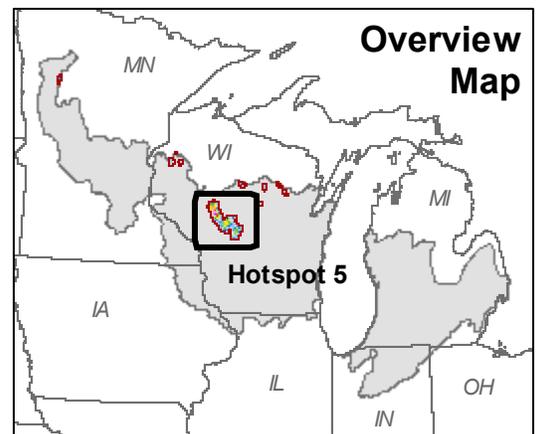
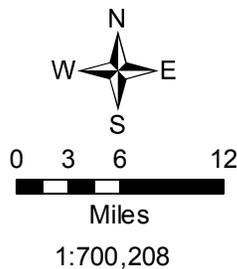
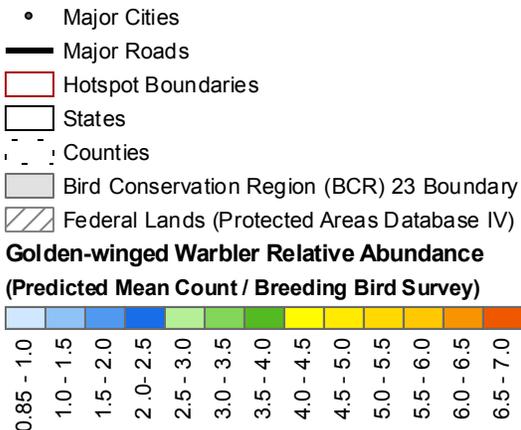
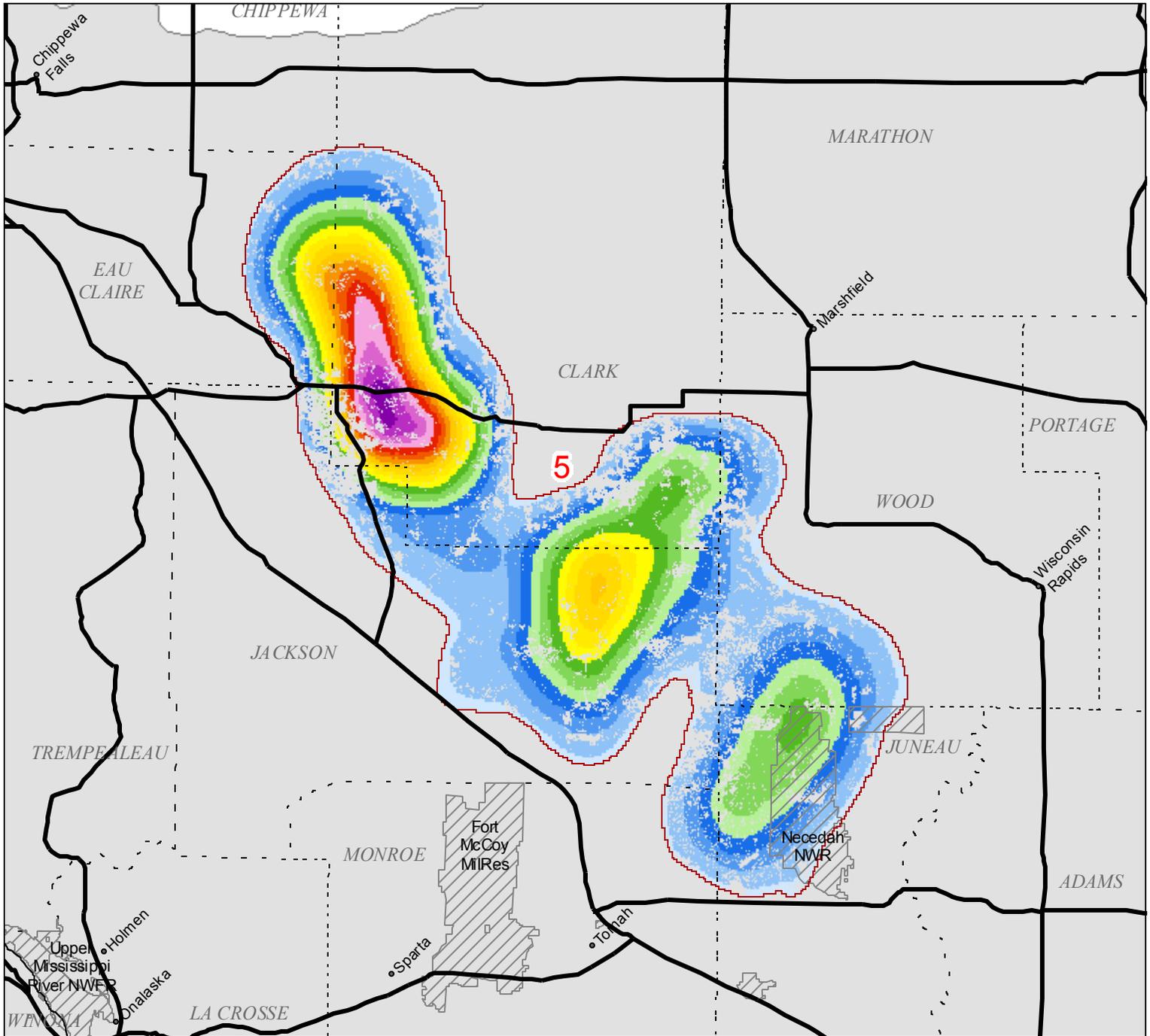
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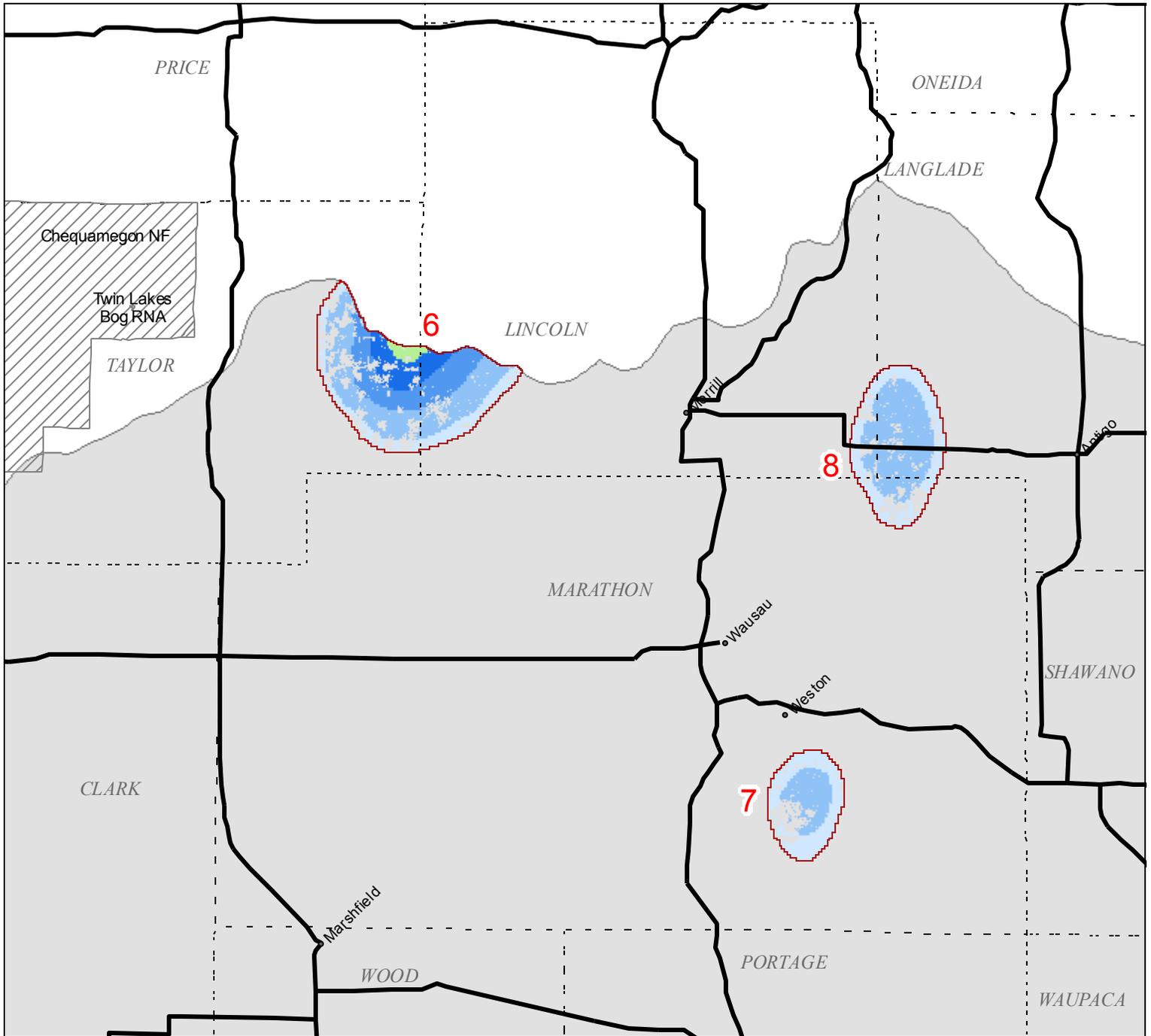
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Hotspot 5



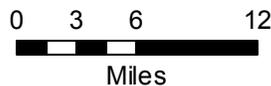
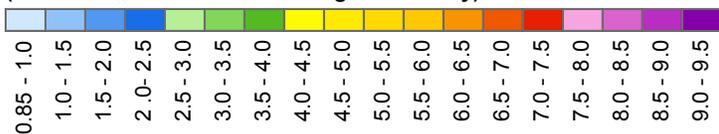
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Hotspots 6, 7, and 8

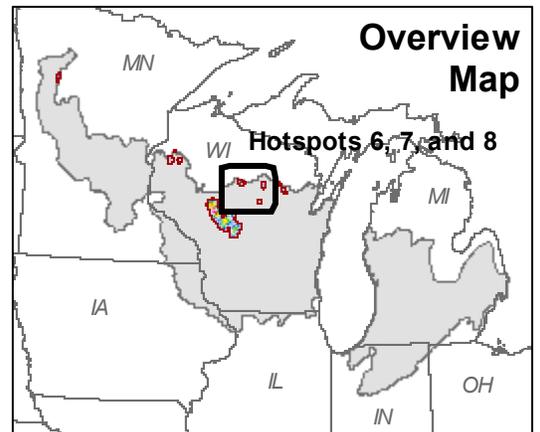


- Major Cities
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**Golden-winged Warbler Relative Abundance**  
(Predicted Mean Count / Breeding Bird Survey)

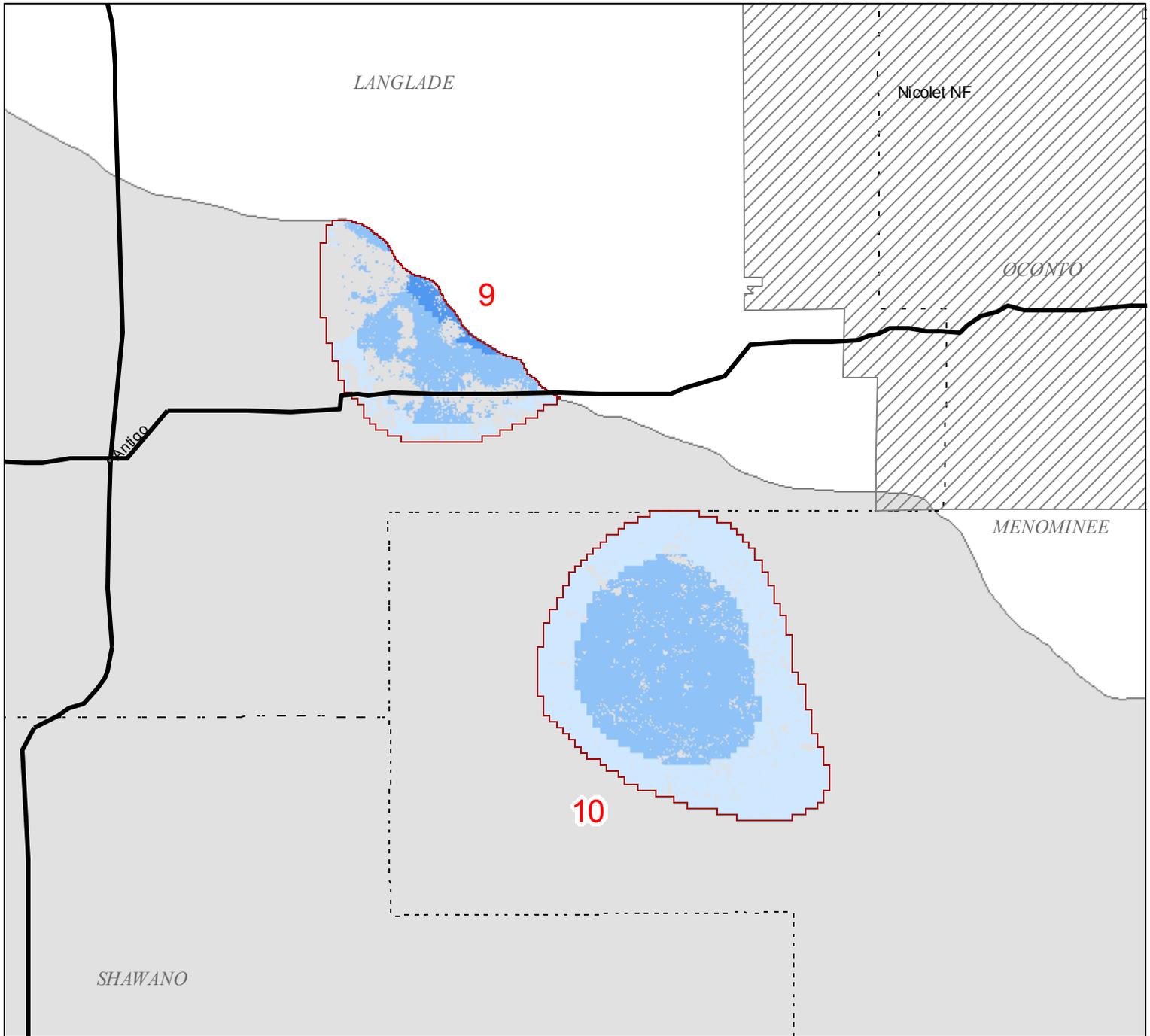


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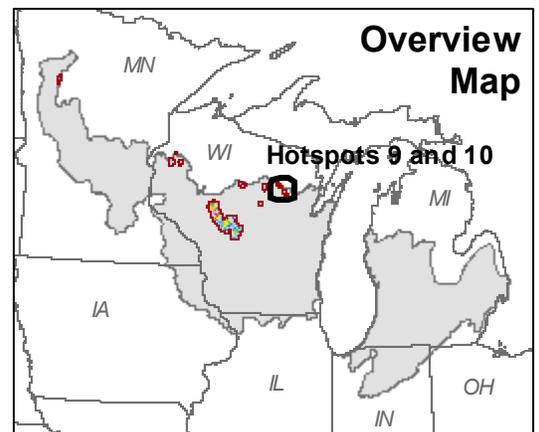
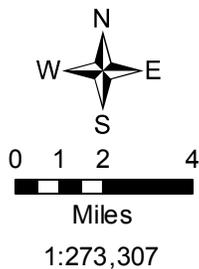
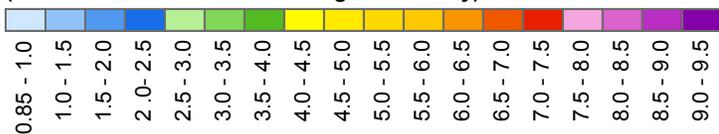
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## Hotspots 9 and 10



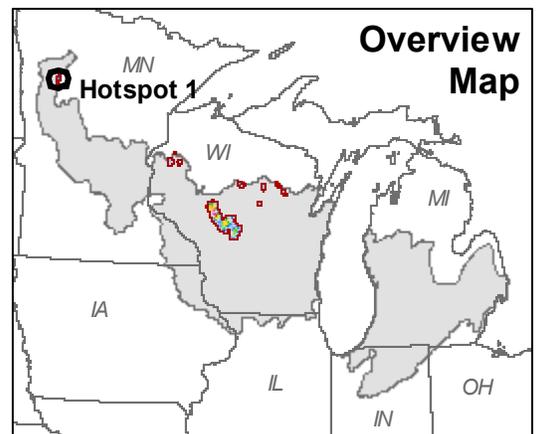
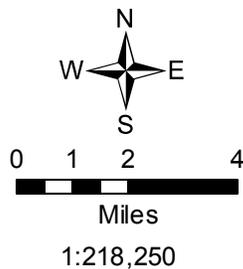
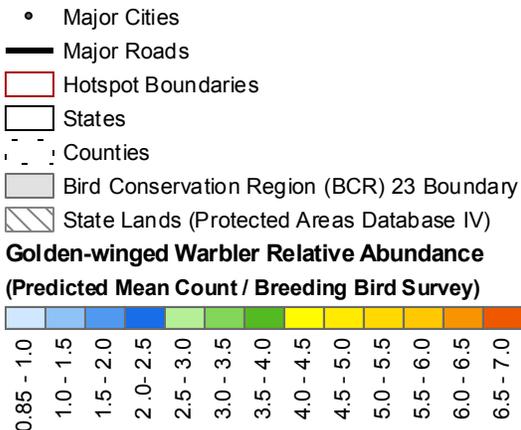
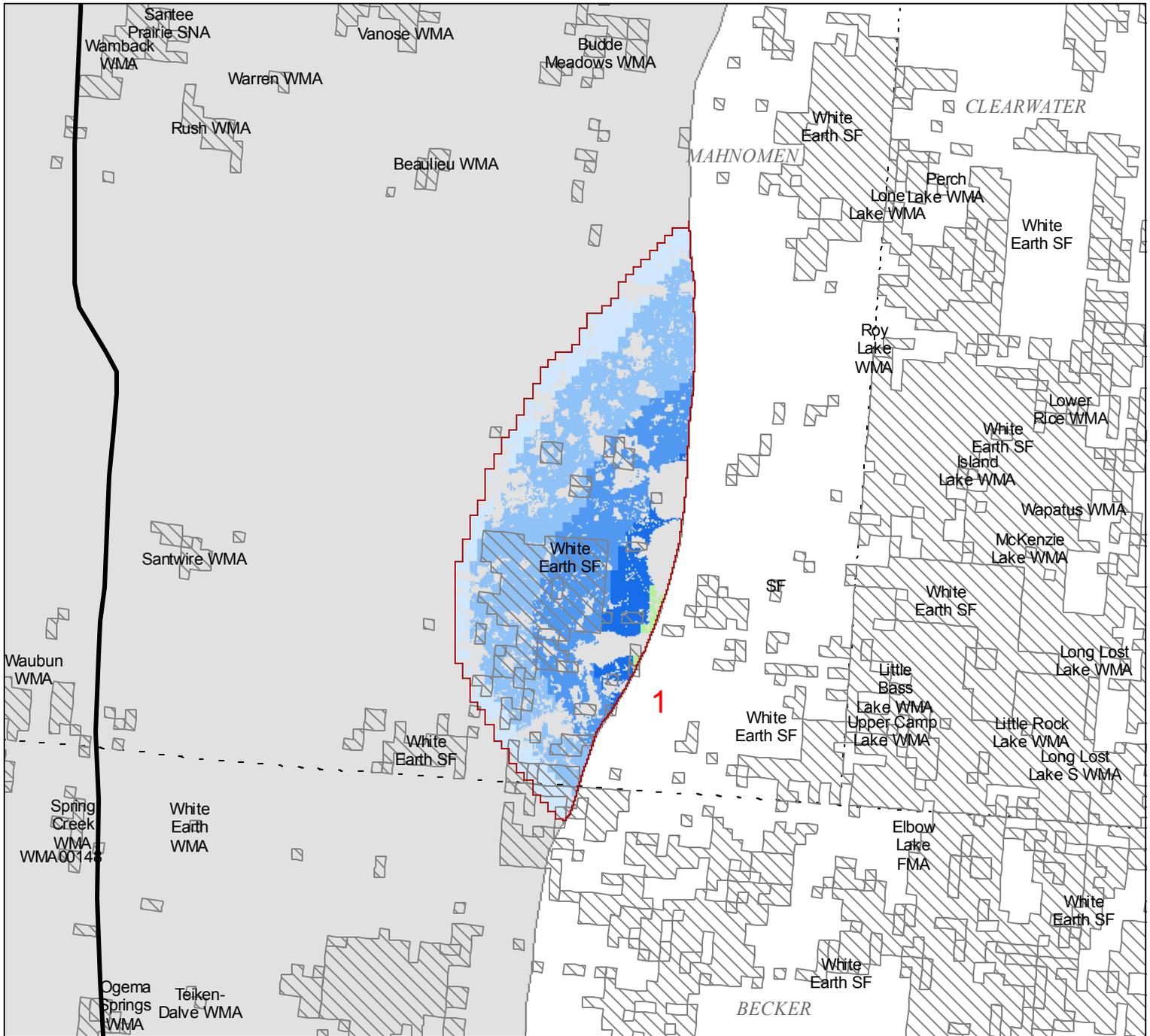
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### Golden-winged Warbler Relative Abundance (Predicted Mean Count / Breeding Bird Survey)



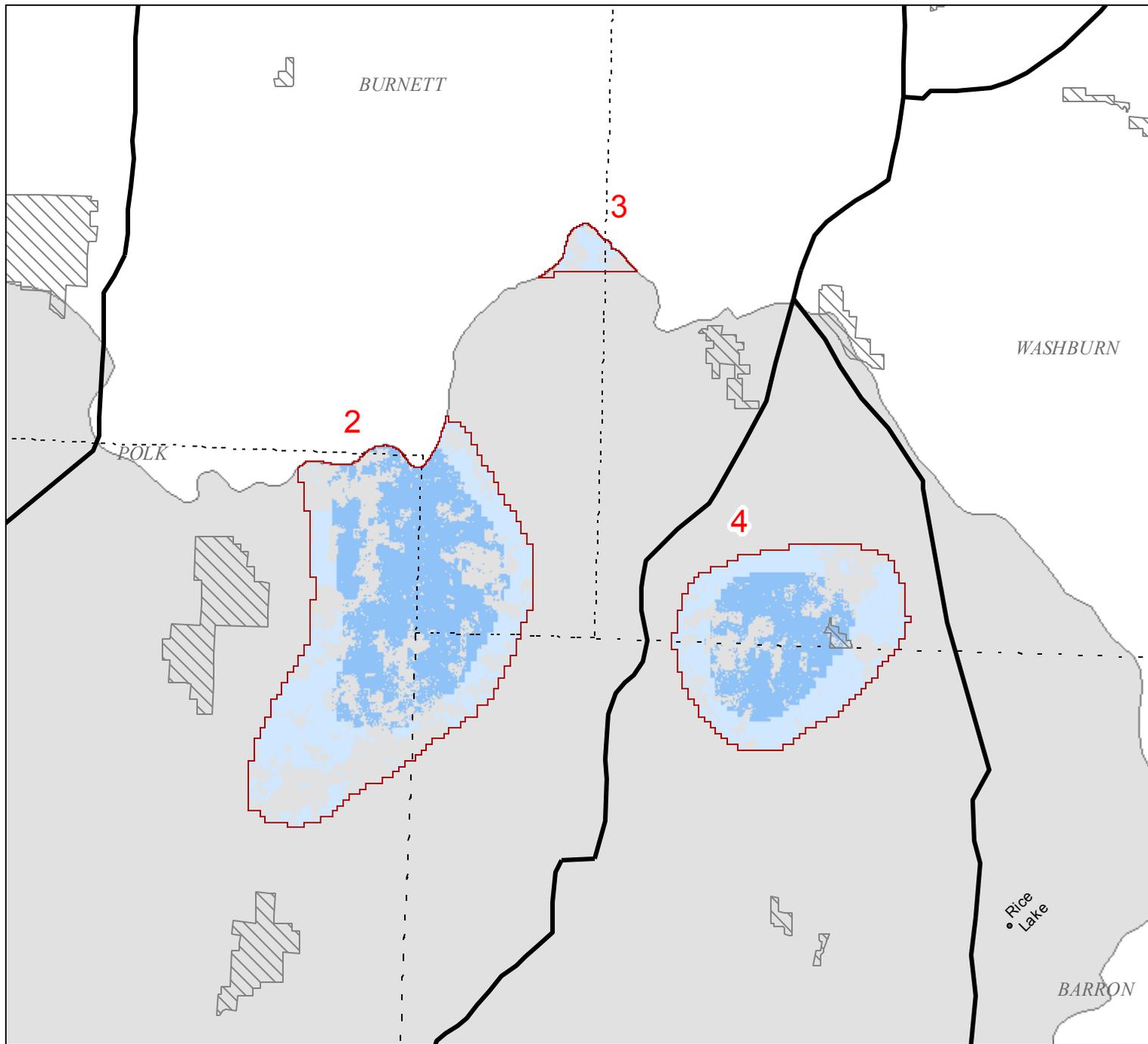
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## Hotspot 1



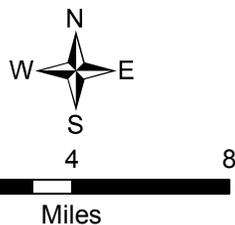
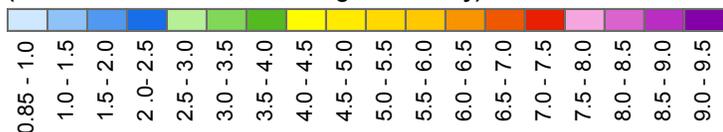
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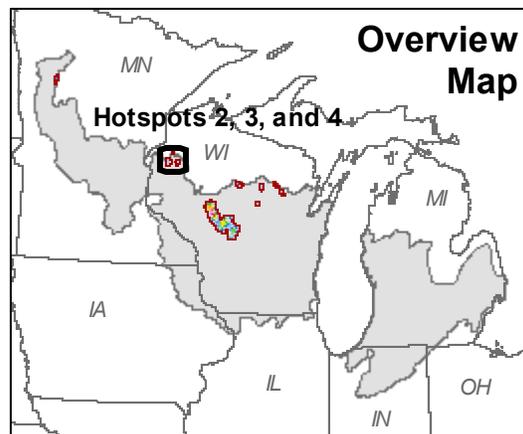


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### Golden-winged Warbler Relative Abundance (Predicted Mean Count / Breeding Bird Survey)

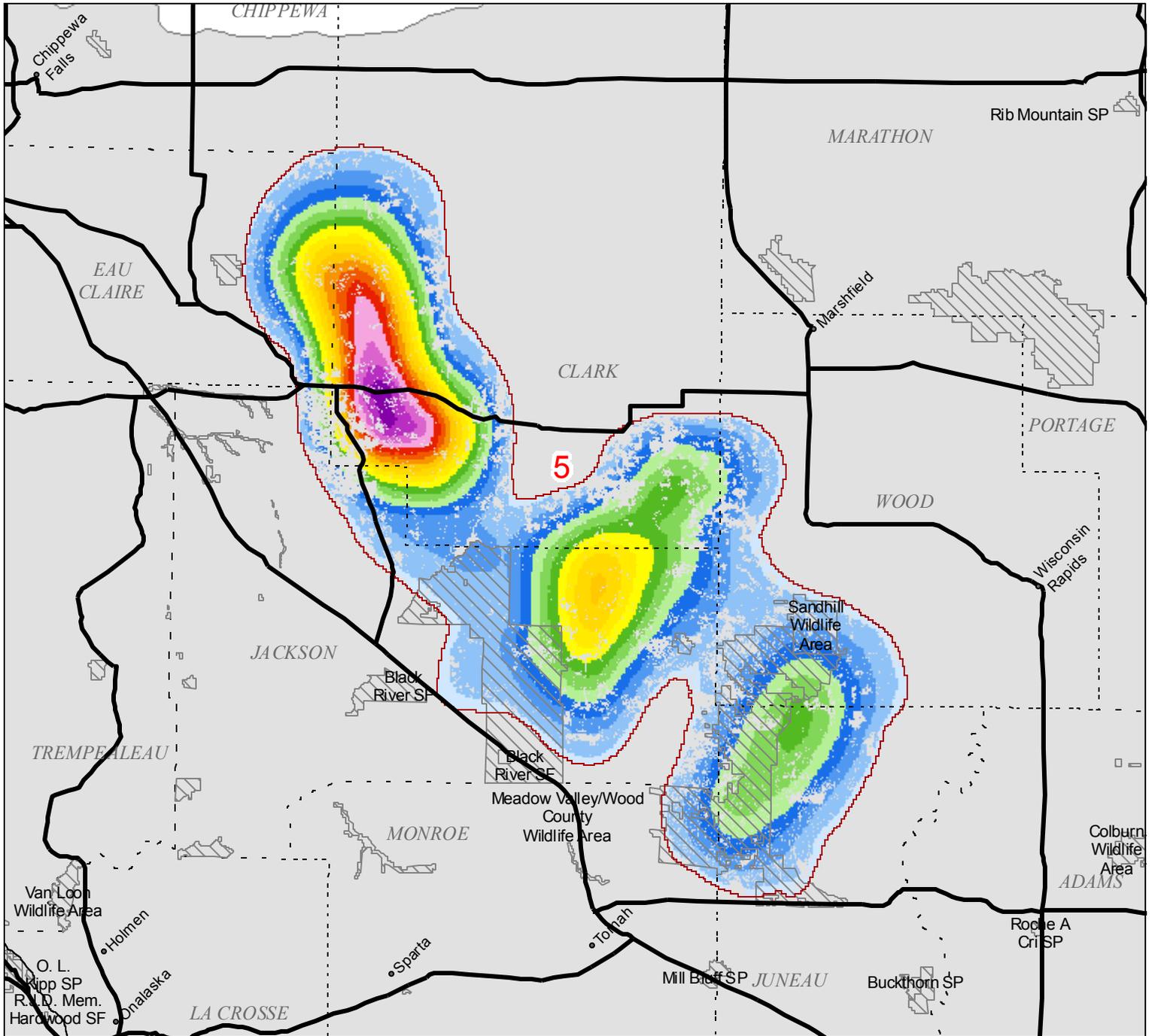


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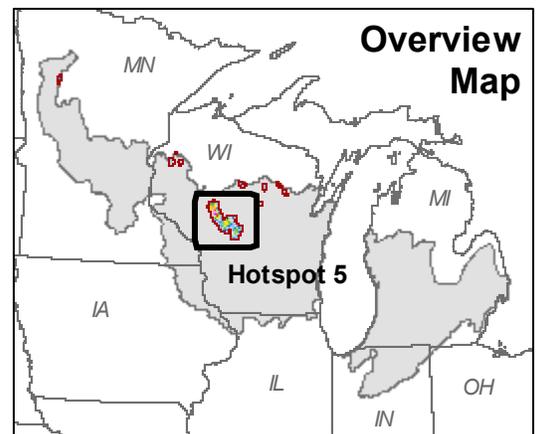
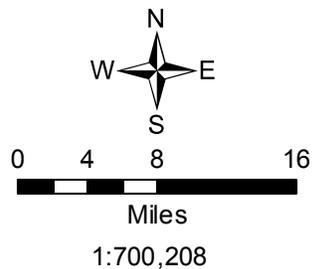
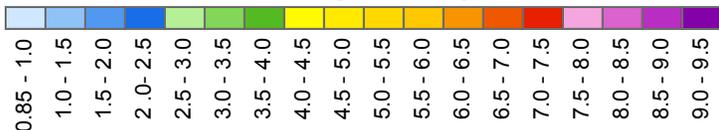
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Hotspot 5



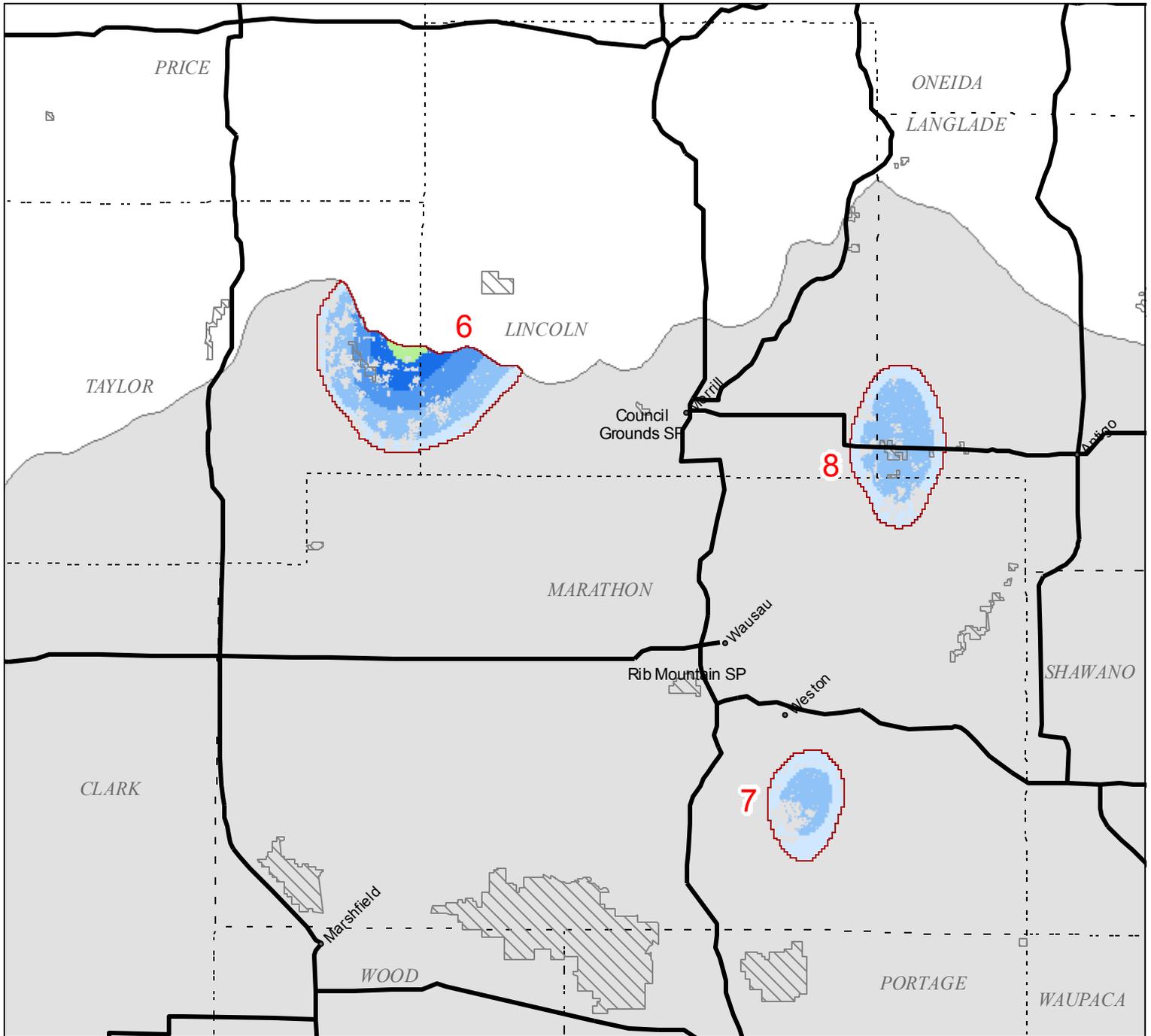
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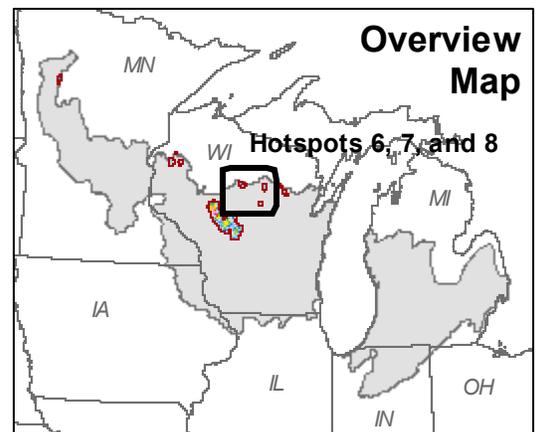
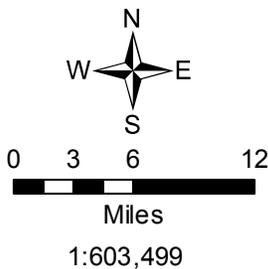
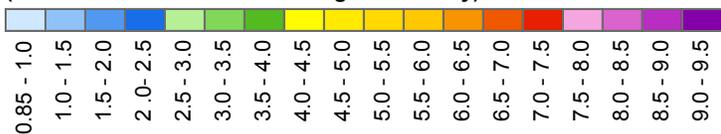


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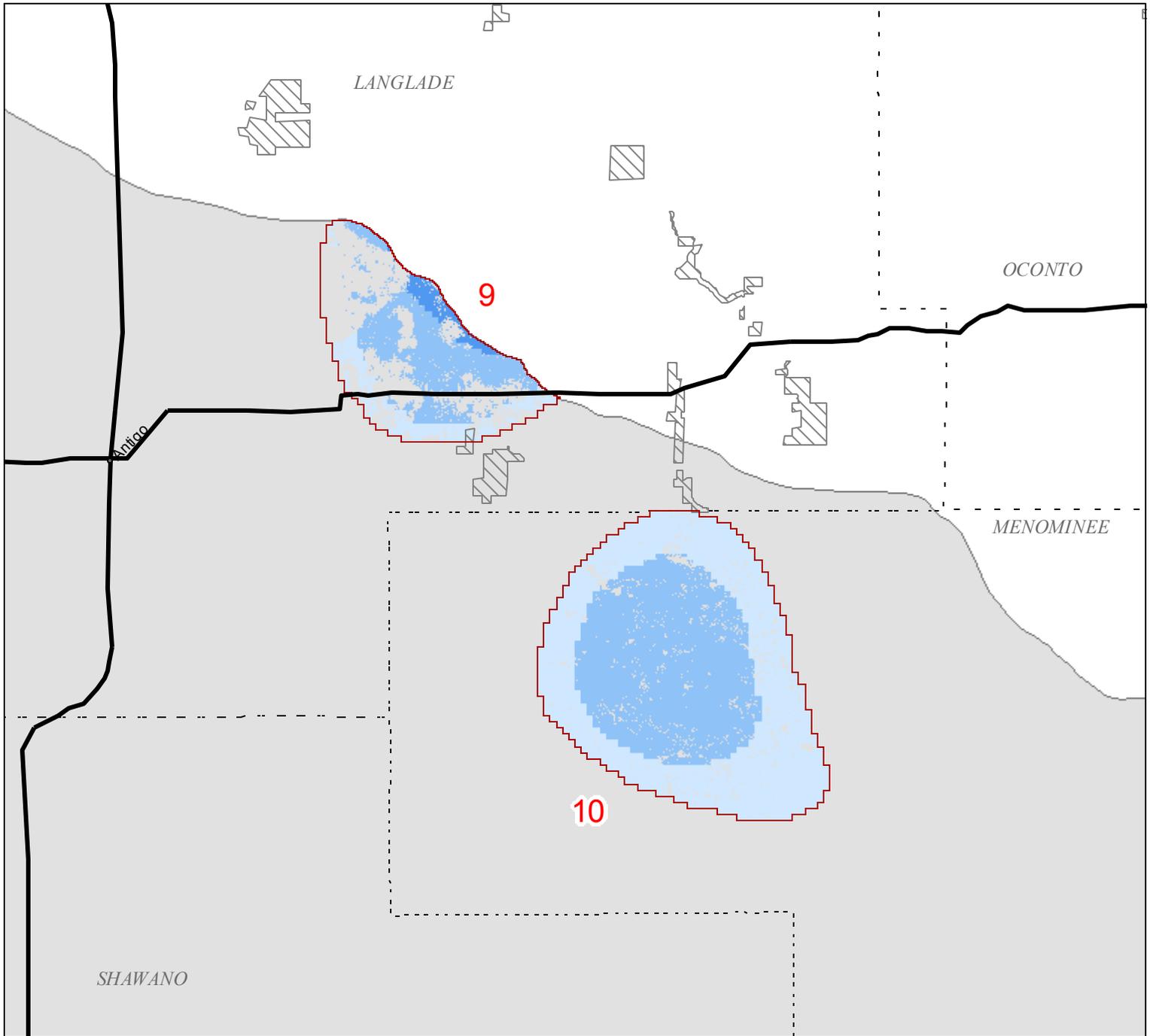


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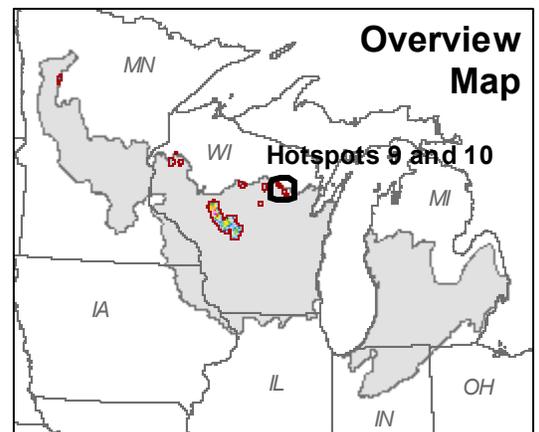
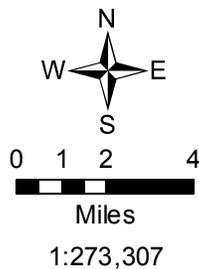
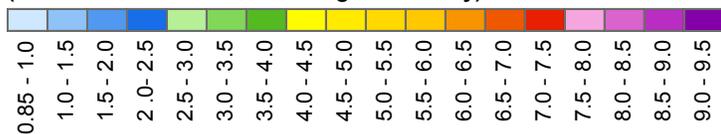
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## Hotspots 9 and 10



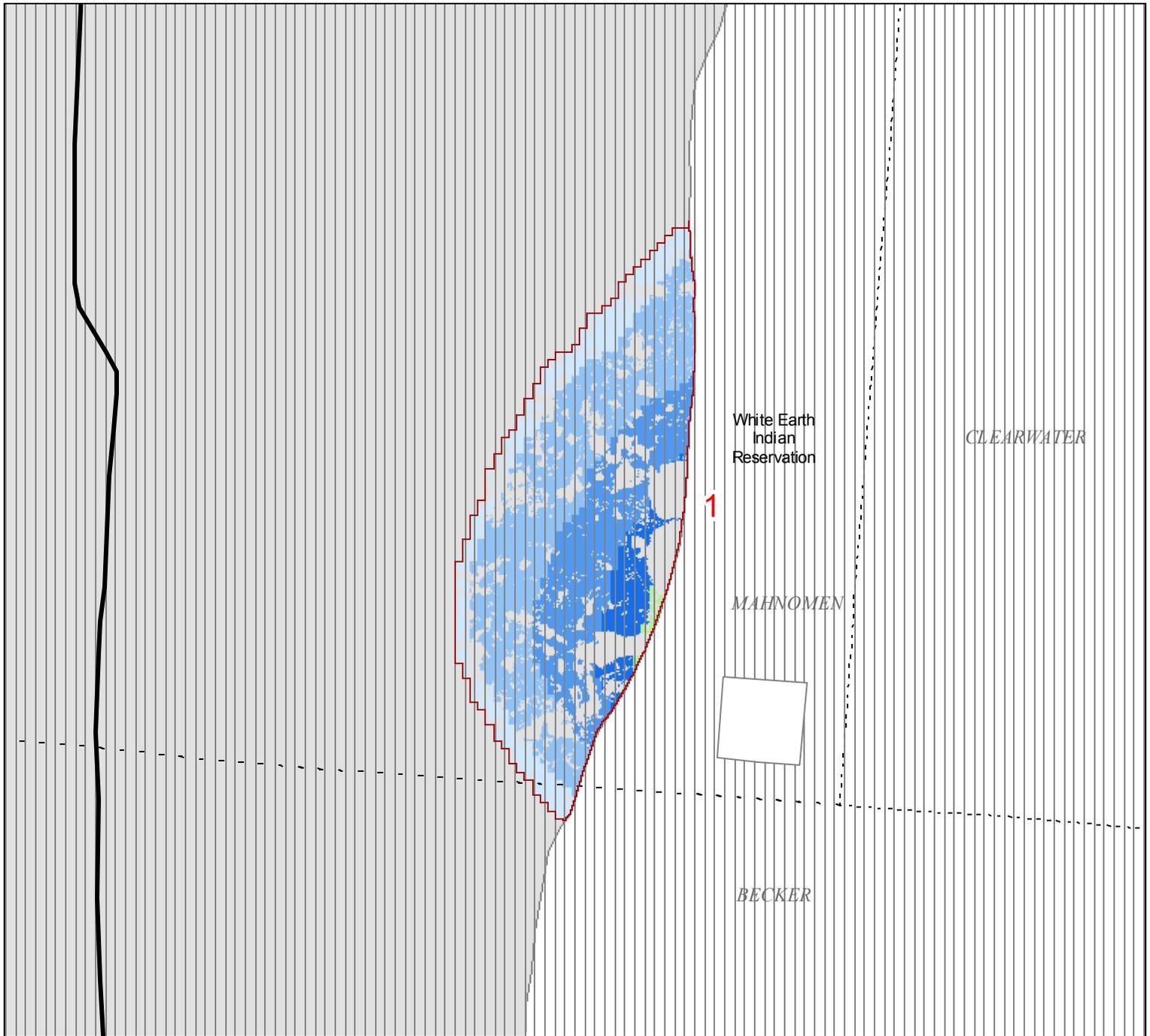
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### Golden-winged Warbler Relative Abundance (Predicted Mean Count / Breeding Bird Survey)



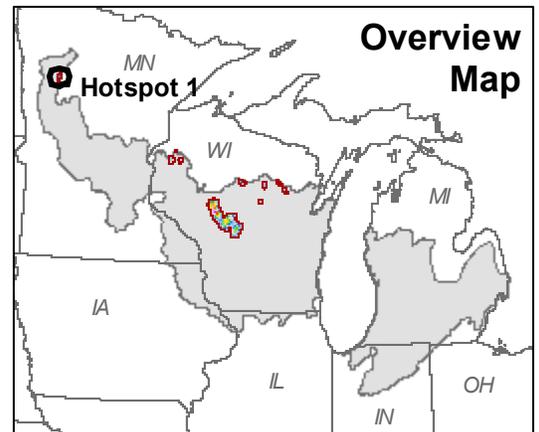
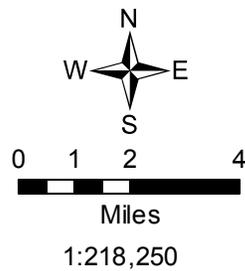
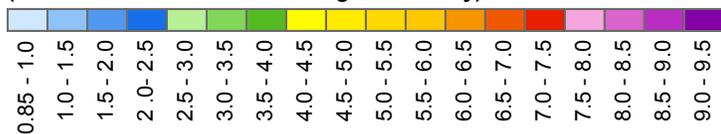
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## Hotspot 1



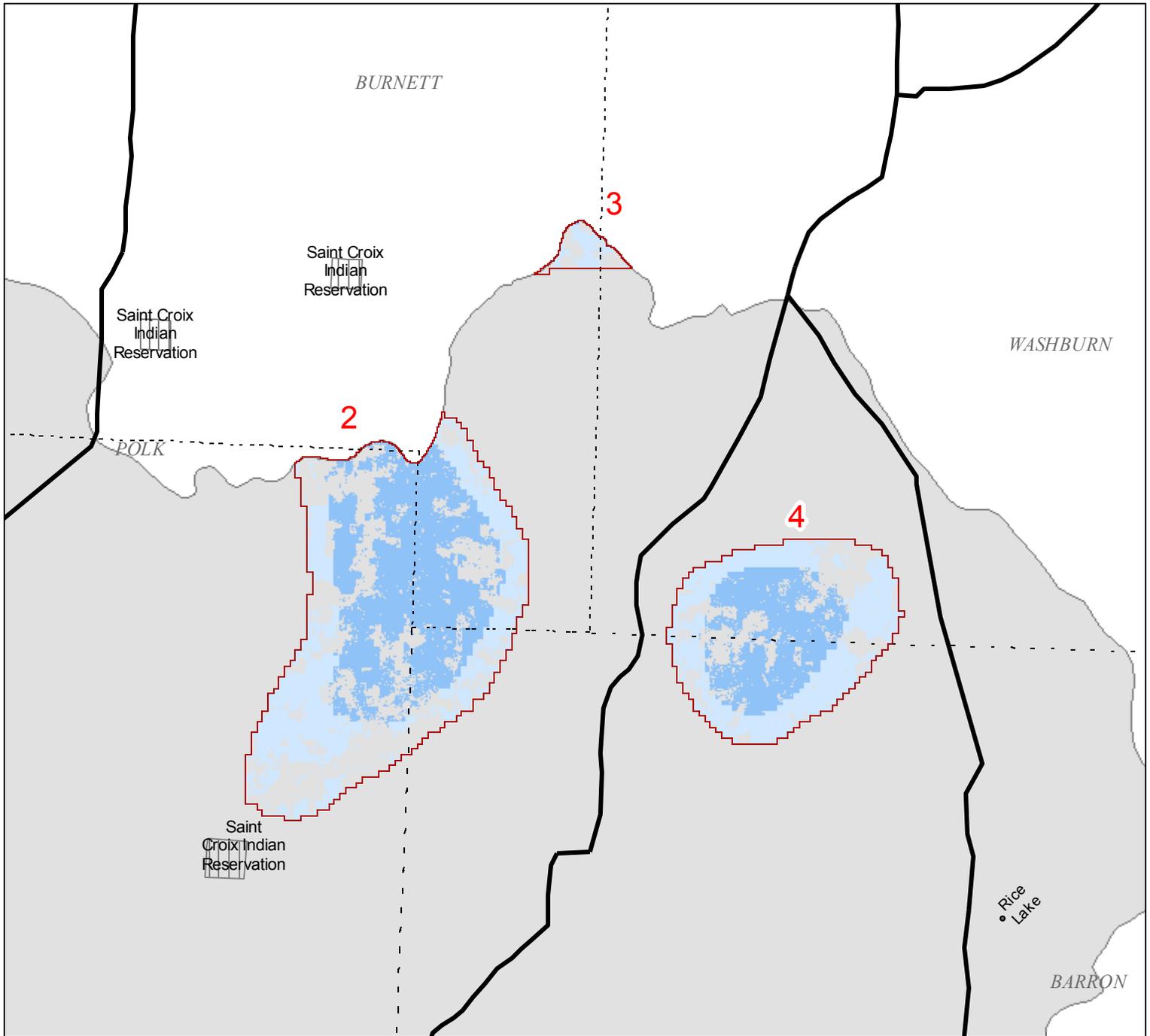
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**Golden-winged Warbler Relative Abundance**  
(Predicted Mean Count / Breeding Bird Survey)



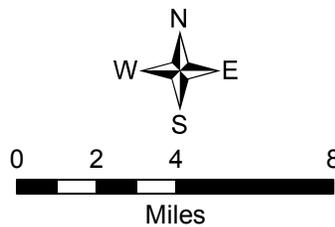
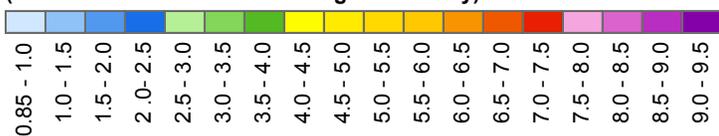
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## Hotspots 2, 3, and 4

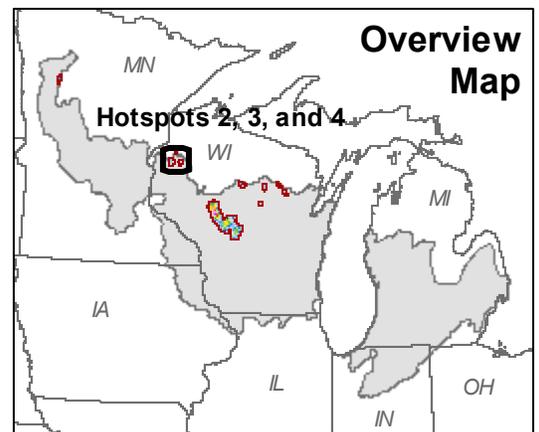


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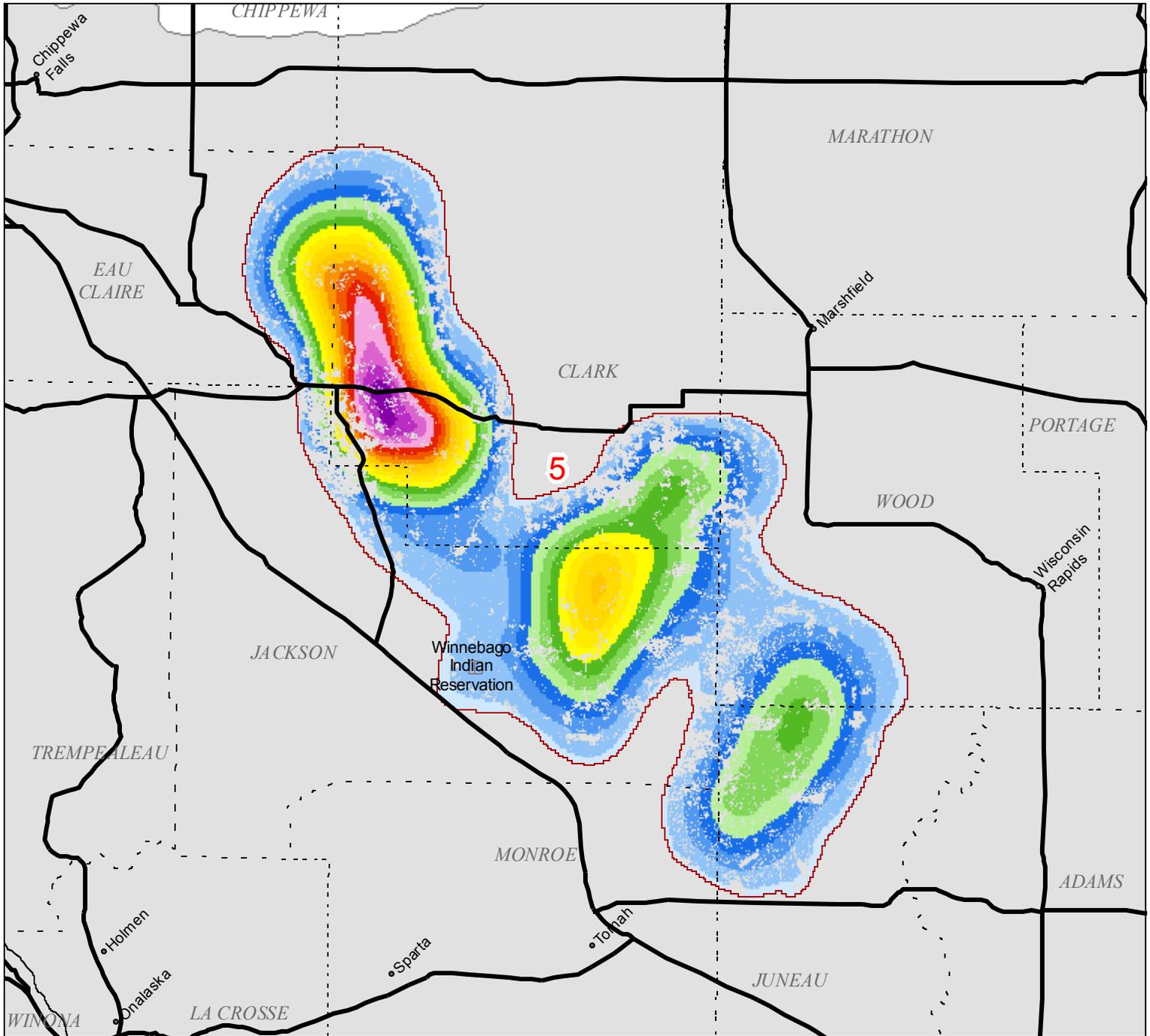


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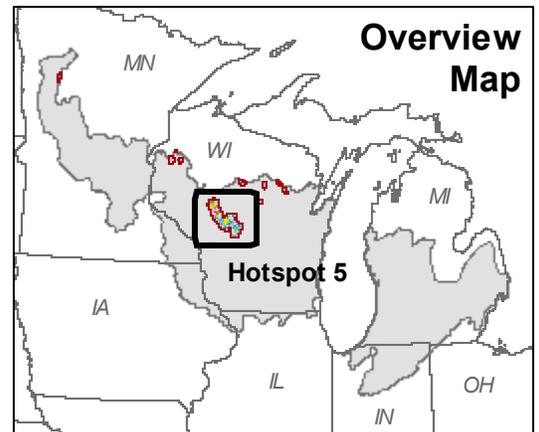
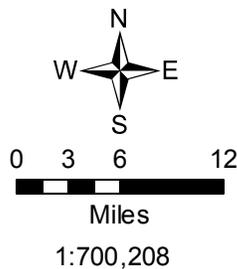
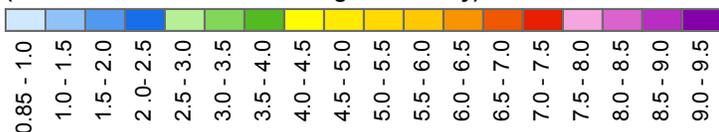
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## Hotspot 5



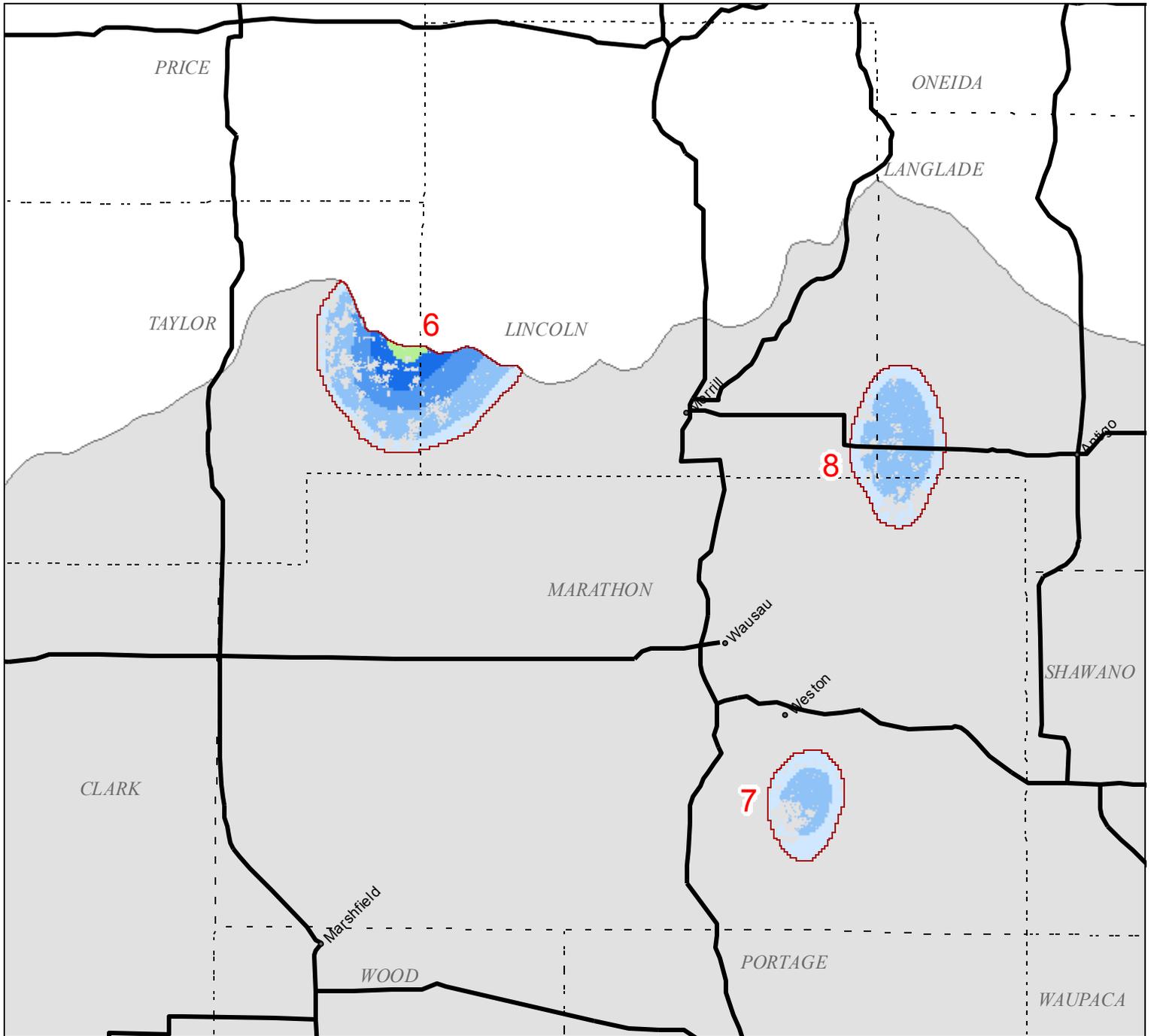
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**Golden-winged Warbler Relative Abundance**  
(Predicted Mean Count / Breeding Bird Survey)



# Golden-Winged Warbler (GWWA) Predicted Relative Abundance Overlaid with Tribal Lands

## Hotspots 6, 7, and 8



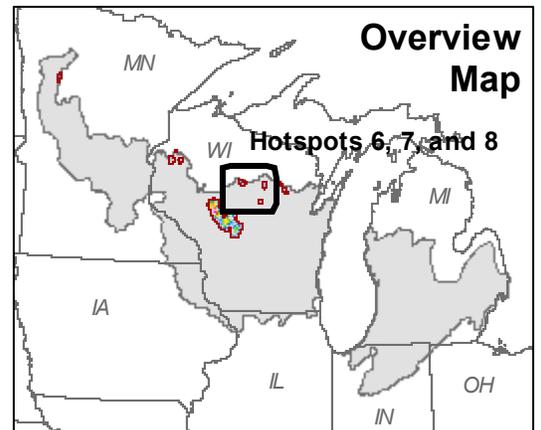
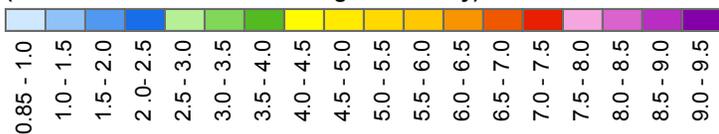
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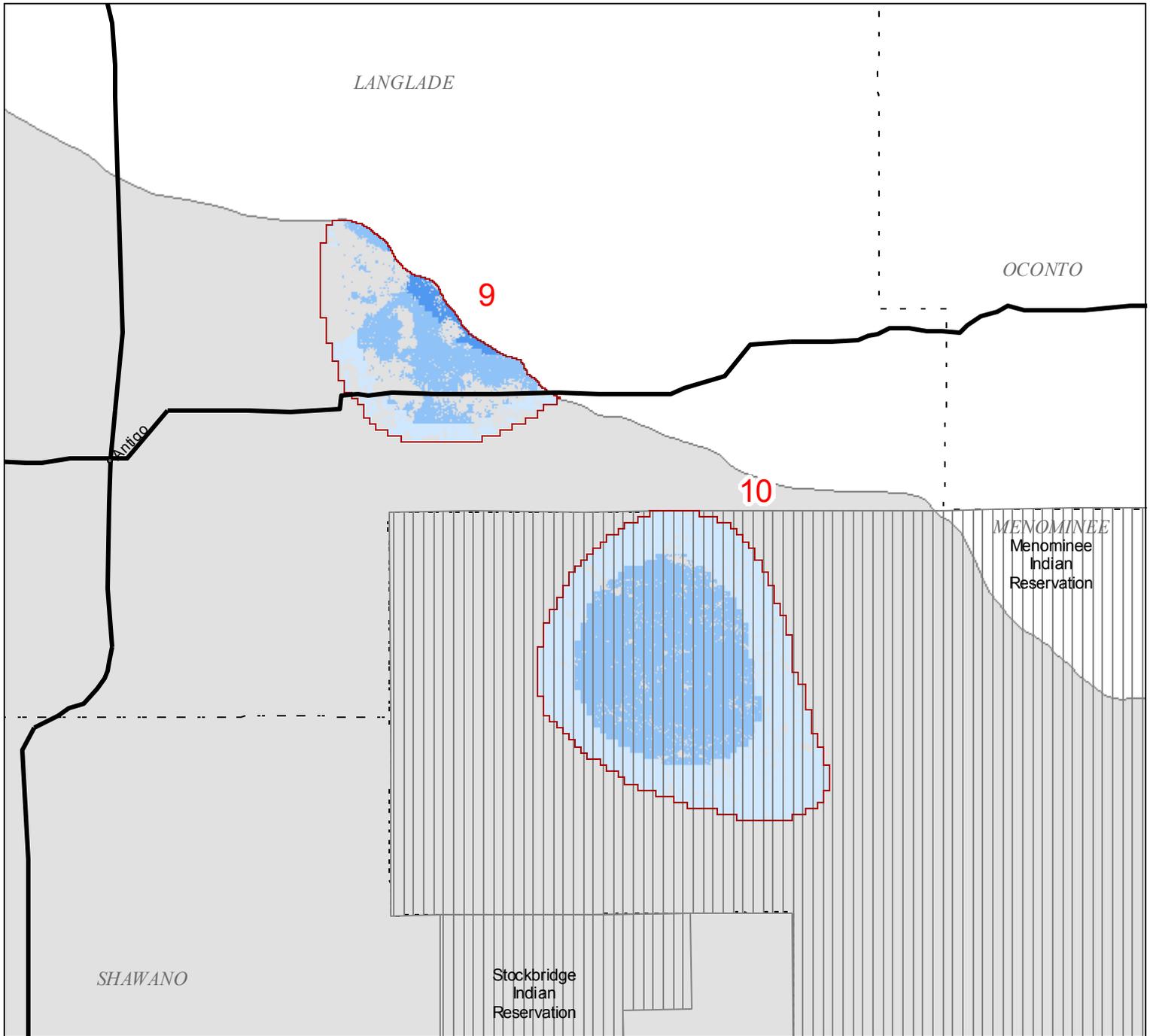
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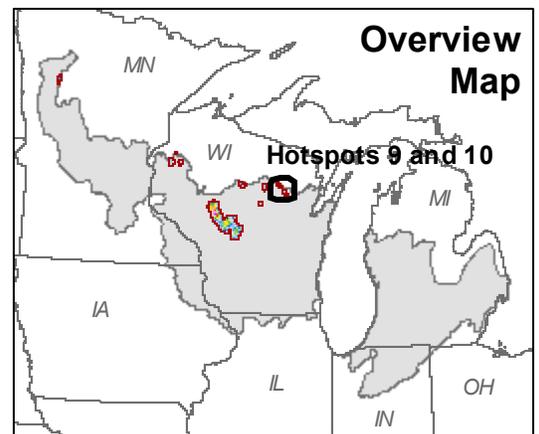
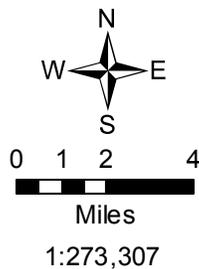
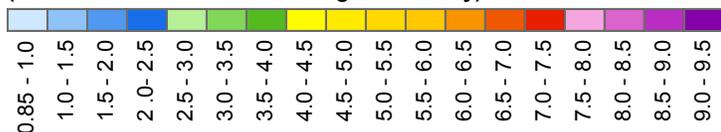
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## Hotspots 9 and 10



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### Golden-winged Warbler Relative Abundance (Predicted Mean Count / Breeding Bird Survey)



**Golden-winged Warbler Predicted Relative Abundance Summary by Hotspot  
Federal Managed Lands Versus Lands Not Under Federal Management**

Description	Area (sq km)	Mean Predicted Count / Breeding Bird Survey				SD	Sum*	Percent Area Managed/ Unmanaged	Percent Sum* Managed/ Unmanaged
		Min	Mean	Max	Range				
Hotspot 1 - Unmanaged by Federal	114.98	0.00	1.00	2.70	2.70	0.74	127,867	92.22	93.83
Hotspot 1 - Managed by Federal	9.70	0.00	0.78	1.24	1.24	0.39	8,404	7.78	6.17
Hotspot 2 - Unmanaged by Federal	205.29	0.00	0.66	1.33	1.33	0.53	150,599	100.00	100.00
Hotspot 2 - Managed by Federal	0.00								
Hotspot 3 - Unmanaged by Federal	7.01	0.00	0.46	1.03	1.03	0.46	3,551	100.00	100.00
Hotspot 3 - Managed by Federal	0.00								
Hotspot 4 - Unmanaged by Federal	105.03	0.00	0.73	1.20	1.20	0.45	84,951	100.00	100.00
Hotspot 4 - Managed by Federal	0.00								
Hotspot 5 - Unmanaged by Federal	3,058.38	0.00	2.27	9.38	9.38	2.01	7,718,690	95.31	96.00
Hotspot 5 - Managed by Federal	150.39	0.00	1.92	3.71	3.71	1.18	321,381	4.69	4.00
Hotspot 6 - Unmanaged by Federal	206.53	0.00	1.18	2.86	2.86	0.74	269,792	100.00	100.00
Hotspot 6 - Managed by Federal	0.00								
Hotspot 7 - Unmanaged by Federal	73.26	0.00	0.78	1.15	1.15	0.40	63,499	100.00	100.00
Hotspot 7 - Managed by Federal	0.00								
Hotspot 8 - Unmanaged by Federal	130.41	0.00	0.87	1.35	1.35	0.44	125,485	100.00	100.00
Hotspot 8 - Managed by Federal	0.00								
Hotspot 9 - Unmanaged by Federal	67.80	0.00	0.62	1.76	1.76	0.62	46,639	100.00	100.00
Hotspot 9 - Managed by Federal	0.00								
Hotspot 10 - Unmanaged by Federal	149.04	0.00	0.95	1.22	1.22	0.27	156,719	100.00	100.00
Hotspot 10 - Managed by Federal	0.00								

**SUMMARY**

Total Area Unmanaged (sq km)	4,117.73	Sum* Total Unmanaged	8,747,792
Total Area Managed (sq km)	160.09	Sum* Total Managed	329,785
Total Area (sq km)	4,277.82	Total Sum*	9,077,577

Total Area Unmanaged %	96.26	Sum* Total Unmanaged %	96.37
Total Area Managed %	3.74	Sum* Total Managed %	3.63

\* Sum refers to the cumulative predicted relative abundance values for each cell (900 sq meters) in each managed category.

A note on interpretation: If the "Total Area Unmanaged" and "Sum\* Total Unmanaged" exceeds that of their respective Managed cells, this indicates a majority of the area and population is outside of direct governmental jurisdiction. If the "Sum\* Total Managed %" is less than the "Total Area Managed %", this indicates that the conservation estate does a poorer job than a random placement of managed lands. Conversely, if the "Sum\* Total Managed %" exceeds that of the "Total Area Managed %", then the conservation estate does a better job than a random placement of the conservation estate.

**Golden-winged Warbler Predicted Relative Abundance Summary by Hotspot  
State Managed Lands Versus Lands Not Under State Management**

Description	Area (sq km)	Mean Predicted Count / Breeding Bird Survey				SD	Sum*	Percent Area Managed/ Unmanaged	Percent Sum* Managed/ Unmanaged
		Min	Mean	Max	Range				
Hotspot 1 - Unmanaged by State	94.68	0.00	0.94	2.70	2.70	0.73	98,468	75.95	72.26
Hotspot 1 - Managed by State	29.99	0.00	1.13	2.54	2.54	0.66	37,803	24.05	27.74
Hotspot 2 - Unmanaged by State	205.29	0.00	0.66	1.33	1.33	0.53	150,599	100.00	100.00
Hotspot 2 - Managed by State	0.00								
Hotspot 3 - Unmanaged by State	7.01	0.00	0.46	1.03	1.03	0.46	3,551	100.00	100.00
Hotspot 3 - Managed by State	0.00								
Hotspot 4 - Unmanaged by State	103.98	0.00	0.73	1.20	1.20	0.45	84,068	99.00	98.96
Hotspot 4 - Managed by State	1.05	0.00	0.76	1.09	1.09	0.46	883	1.00	1.04
Hotspot 5 - Unmanaged by State	2,671.66	0.00	2.38	9.38	9.38	2.10	7,065,990	83.26	87.88
Hotspot 5 - Managed by State	537.11	0.00	1.63	4.04	4.04	0.99	974,081	16.74	12.12
Hotspot 6 - Unmanaged by State	203.45	0.00	1.17	2.86	2.86	0.74	265,069	98.51	98.25
Hotspot 6 - Managed by State	3.08	0.00	1.38	2.01	2.01	0.68	4,723	1.49	1.75
Hotspot 7 - Unmanaged by State	73.26	0.00	0.78	1.15	1.15	0.40	63,499	100.00	100.00
Hotspot 7 - Managed by State	0.00								
Hotspot 8 - Unmanaged by State	126.73	0.00	0.87	1.35	1.35	0.43	121,987	97.18	97.21
Hotspot 8 - Managed by State	3.68	0.00	0.86	1.35	1.35	0.61	3,498	2.82	2.79
Hotspot 9 - Unmanaged by State	67.55	0.00	0.62	1.76	1.76	0.62	46,430	99.63	99.55
Hotspot 9 - Managed by State	0.25	0.00	0.75	0.97	0.97	0.34	210	0.37	0.45
Hotspot 10 - Unmanaged by State	149.02	0.00	0.95	1.22	1.22	0.27	156,699	99.99	99.99
Hotspot 10 - Managed by State	0.02	0.00	0.82	0.86	0.86	0.17	20	0.01	0.01

**SUMMARY**

Total Area Unmanaged (sq km)	3,702.64	Sum* Total Unmanaged	8,056,359
Total Area Managed (sq km)	575.18	Sum* Total Managed	1,021,216
Total Area (sq km)	4,277.82	Total Sum*	9,077,575

Total Area Unmanaged %	86.55	Sum* Total Unmanaged %	88.75
Total Area Managed %	13.45	Sum* Total Managed %	11.25

\* Sum refers to the cumulative predicted relative abundance values for each cell (900 sq meters) in each managed category.

A note on interpretation: If the "Total Area Unmanaged" and "Sum\* Total Unmanaged" exceeds that of their respective Managed cells, this indicates a majority of the area and population is outside of direct governmental jurisdiction. If the "Sum\* Total Managed %" is less than the "Total Area Managed %", this indicates that the conservation estate does a poorer job than a random placement of managed lands. Conversely, if the "Sum\* Total Managed %" exceeds that of the "Total Area Managed %", then the conservation estate does a better job than a random placement of the conservation estate.

**Golden-winged Warbler Predicted Relative Abundance Summary by Hotspot  
Tribal Lands Versus Lands Not Under Tribal Management**

Description	Area (sq km)	Mean Predicted Count / Breeding Bird Survey				SD	Sum*	Percent Area Managed/ Unmanaged	Percent Sum* Managed/ Unmanaged
		Min	Mean	Max	Range				
Hotspot 1 - Unmanaged by Tribal	0.00								
Hotspot 1 - Managed by Tribal	124.67	0.00	0.98	2.70	2.70	0.72	136,270	100.00	100.00
Hotspot 2 - Unmanaged by Tribal	205.29	0.00	0.66	1.33	1.33	0.53	150,599	100.00	100.00
Hotspot 2 - Managed by Tribal	0.00								
Hotspot 3 - Unmanaged by Tribal	7.01	0.00	0.46	1.03	1.03	0.46	3,551	100.00	100.00
Hotspot 3 - Managed by Tribal	0.00								
Hotspot 4 - Unmanaged by Tribal	105.03	0.00	0.73	1.20	1.20	0.45	84,951	100.00	100.00
Hotspot 4 - Managed by Tribal	0.00								
Hotspot 5 - Unmanaged by Tribal	3,206.13	0.00	2.26	9.38	9.38	1.98	8,036,340	99.92	99.95
Hotspot 5 - Managed by Tribal	2.64	0.00	1.27	1.35	1.35	0.10	3,724	0.08	0.05
Hotspot 6 - Unmanaged by Tribal	206.53	0.00	1.18	2.86	2.86	0.74	269,792	100.00	100.00
Hotspot 6 - Managed by Tribal	0.00								
Hotspot 7 - Unmanaged by Tribal	73.26	0.00	0.78	1.15	1.15	0.40	63,499	100.00	100.00
Hotspot 7 - Managed by Tribal	0.00								
Hotspot 8 - Unmanaged by Tribal	130.41	0.00	0.87	1.35	1.35	0.44	125,485	100.00	100.00
Hotspot 8 - Managed by Tribal	0.00								
Hotspot 9 - Unmanaged by Tribal	67.80	0.00	0.62	1.76	1.76	0.62	46,639	100.00	100.00
Hotspot 9 - Managed by Tribal	0.00								
Hotspot 10 - Unmanaged by Tribal	0.09	0.00	0.76	0.86	0.86	0.27	77	0.06	0.05
Hotspot 10 - Managed by Tribal	148.95	0.00	0.95	1.22	1.22	0.27	156,642	99.94	99.95

**SUMMARY**

Total Area Unmanaged (sq km)	4,001.55	Sum* Total Unmanaged	8,780,933
Total Area Managed (sq km)	276.26	Sum* Total Managed	296,636
Total Area (sq km)	4,277.82	Total Sum*	9,077,569

Total Area Unmanaged %	93.54	Sum* Total Unmanaged %	96.73
Total Area Managed %	6.46	Sum* Total Managed %	3.27

\* Sum refers to the cumulative predicted relative abundance values for each cell (900 sq meters) in each managed category.

A note on interpretation: If the "Total Area Unmanaged" and "Sum\* Total Unmanaged" exceeds that of their respective Managed cells, this indicates a majority of the area and population is outside of direct governmental jurisdiction. If the "Sum\* Total Managed %" is less than the "Total Area Managed %", this indicates that the conservation estate does a poorer job than a random placement of managed lands. Conversely, if the "Sum\* Total Managed %" exceeds that of the "Total Area Managed %", then the conservation estate does a better job than a random placement of the conservation estate.

## Golden-winged Warbler Predicted Relative Abundance Summary by State Federal Managed Lands Versus Lands Not Under Federal Management

Description	Area (sq km)	Mean Predicted Count / Breeding Bird Survey				SD	Sum*	Percent Area Managed/ Unmanaged	Percent Sum* Managed/ Unmanaged
		Min	Mean	Max	Range				
IA - Unmanaged by Federal	6,982.18	0.00	0.00	0.03	0.03	0.00	17,108	96.80	96.86
IA - Managed by Federal	230.67	0.00	0.00	0.02	0.02	0.00	554	3.20	3.14
IL - Unmanaged by Federal	3,208.05	0.00	0.00	0.02	0.02	0.00	2,111	96.68	92.95
IL - Managed by Federal	110.30	0.00	0.00	0.01	0.01	0.00	160	3.32	7.05
IN - Unmanaged by Federal	13,070.80	0.00	0.00	0.01	0.01	0.00	1,484	99.68	100.00
IN - Managed by Federal	41.35	0.00	0.00	0.00	0.00	0.00	0	0.32	0.00
MI - Unmanaged by Federal	57,537.80	0.00	0.00	0.56	0.56	0.02	280,700	98.06	77.85
MI - Managed by Federal	1,139.19	0.00	0.06	0.35	0.35	0.06	79,880	1.94	22.15
MN - Unmanaged by Federal	49,220.50	0.00	0.01	2.70	2.70	0.07	471,367	98.73	96.88
MN - Managed by Federal	635.37	0.00	0.02	1.24	1.24	0.13	15,187	1.27	3.12
OH - Unmanaged by Federal	110.41	0.00	0.00	0.00	0.00	0.00	0	100.00	
OH - Managed by Federal	0.00								
WI - Unmanaged by Federal	96,519.50	0.00	0.11	9.38	9.38	0.55	11,482,400	99.00	96.68
WI - Managed by Federal	976.24	0.00	0.36	3.71	3.71	0.83	393,929	1.00	3.32

### SUMMARY

Total Area Unmanaged (sq km)	226,649.24	Sum* Total Unmanaged	12,255,170
Total Area Managed (sq km)	3,133.12	Sum* Total Managed	489,710
Total Area (sq km)	229,782.36	Total Sum*	12,744,880

Total Area Unmanaged %	98.64	Sum* Total Unmanaged %	96.16
Total Area Managed %	1.36	Sum* Total Managed %	3.84

\* Sum refers to the cumulative predicted relative abundance values for each cell (900 sq meters) in each managed category.

A note on interpretation: If the "Total Area Unmanaged" and "Sum\* Total Unmanaged" exceeds that of their respective Managed cells, this indicates a majority of the area and population is outside of direct governmental jurisdiction. If the "Sum\* Total Managed %" is less than the "Total Area Managed %", this indicates that the conservation estate does a poorer job than a random placement of managed lands. Conversely, if the "Sum\* Total Managed %" exceeds that of the "Total Area Managed %", then the conservation estate does a better job than a random placement of the conservation estate.

## Golden-winged Warbler Predicted Relative Abundance Summary by State State Managed Lands Versus Lands Not Under State Management

Description	Area (sq km)	Mean Predicted Count / Breeding Bird Survey				SD	Sum*	Percent Area Managed/ Unmanaged	Percent Sum* Managed/ Unmanaged
		Min	Mean	Max	Range				
IA - Unmanaged by State	7,046.34	0.00	0.00	0.03	0.03	0.00	16,481	97.69	93.32
IA - Managed by State	166.51	0.00	0.01	0.03	0.03	0.01	1,180	2.31	6.68
IL - Unmanaged by State	3,278.40	0.00	0.00	0.02	0.02	0.00	2,226	98.80	97.99
IL - Managed by State	39.95	0.00	0.00	0.01	0.01	0.00	46	1.20	2.01
IN - Unmanaged by State	12,948.40	0.00	0.00	0.01	0.01	0.00	1,217	98.75	81.97
IN - Managed by State	163.72	0.00	0.00	0.01	0.01	0.00	268	1.25	18.03
MI - Unmanaged by State	56,466.40	0.00	0.00	0.56	0.56	0.02	304,104	96.23	84.34
MI - Managed by State	2,210.56	0.00	0.02	0.52	0.52	0.07	56,476	3.77	15.66
MN - Unmanaged by State	48,427.60	0.00	0.01	2.70	2.70	0.06	408,889	97.14	84.04
MN - Managed by State	1,428.22	0.00	0.05	2.54	2.54	0.20	77,665	2.86	15.96
OH - Unmanaged by State	101.07	0.00	0.00	0.00	0.00	0.00	0	91.54	
OH - Managed by State	9.34	0.00	0.00	0.00	0.00	0.00	0	8.46	
WI - Unmanaged by State	94,536.00	0.00	0.10	9.38	9.38	0.54	10,756,300	96.96	90.57
WI - Managed by State	2,959.68	0.00	0.34	4.04	4.04	0.75	1,119,980	3.04	9.43

### SUMMARY

Total Area Unmanaged (sq km)	222,804.21	Sum* Total Unmanaged	11,489,216
Total Area Managed (sq km)	6,977.98	Sum* Total Managed	1,255,614
Total Area (sq km)	229,782.19	Total Sum*	12,744,830

Total Area Unmanaged %	96.96	Sum* Total Unmanaged %	90.15
Total Area Managed %	3.04	Sum* Total Managed %	9.85

\* Sum refers to the cumulative predicted relative abundance values for each cell (900 sq meters) in each managed category.

A note on interpretation: If the "Total Area Unmanaged" and "Sum\* Total Unmanaged" exceeds that of their respective Managed cells, this indicates a majority of the area and population is outside of direct governmental jurisdiction. If the "Sum\* Total Managed %" is less than the "Total Area Managed %", this indicates that the conservation estate does a poorer job than a random placement of managed lands. Conversely, if the "Sum\* Total Managed %" exceeds that of the "Total Area Managed %", then the conservation estate does a better job than a random placement of the conservation estate.

**Golden-winged Warbler Predicted Relative Abundance Summary by State  
Tribal Lands Versus Lands Not Under Tribal Management**

Description	Area (sq km)	Mean Predicted Count / Breeding Bird Survey				SD	Sum*	Percent Area Managed/ Unmanaged	Percent Sum* Managed/ Unmanaged
		Min	Mean	Max	Range				
IA - Unmanaged by Tribal	7,212.85	0.00	0.00	0.03	0.03	0.00	17,662	100.00	100.00
IA - Managed by Tribal	0.00								
IL - Unmanaged by Tribal	3,318.35	0.00	0.00	0.02	0.02	0.00	2,271	100.00	100.00
IL - Managed by Tribal	0.00								
IN - Unmanaged by Tribal	13,112.10	0.00	0.00	0.01	0.01	0.00	1,484	100.00	100.00
IN - Managed by Tribal	0.00								
MI - Unmanaged by Tribal	58,154.70	0.00	0.01	0.56	0.56	0.03	359,715	99.11	99.76
MI - Managed by Tribal	522.27	0.00	0.00	0.03	0.03	0.00	865	0.89	0.24
MN - Unmanaged by Tribal	47,959.20	0.00	0.01	0.48	0.48	0.03	269,491	96.20	55.39
MN - Managed by Tribal	1,896.59	0.00	0.10	2.70	2.70	0.32	217,063	3.80	44.61
OH - Unmanaged by Tribal	110.41	0.00	0.00	0.00	0.00	0.00	0	100.00	
OH - Managed by Tribal	0.00								
WI - Unmanaged by Tribal	96,268.00	0.00	0.11	9.38	9.38	0.55	11,426,900	98.74	96.22
WI - Managed by Tribal	1,227.65	0.00	0.33	1.35	1.35	0.35	449,377	1.26	3.78

**SUMMARY**

Total Area Unmanaged (sq km)	226,135.61	Sum* Total Unmanaged	12,077,523
Total Area Managed (sq km)	3,646.51	Sum* Total Managed	667,305
Total Area (sq km)	229,782.12	Total Sum*	12,744,829

Total Area Unmanaged %	98.41	Sum* Total Unmanaged %	94.76
Total Area Managed %	1.59	Sum* Total Managed %	5.24

\* Sum refers to the cumulative predicted relative abundance values for each cell (900 sq meters) in each managed category.

A note on interpretation: If the "Total Area Unmanaged" and "Sum\* Total Unmanaged" exceeds that of their respective Managed cells, this indicates a majority of the area and population is outside of direct governmental jurisdiction. If the "Sum\* Total Managed %" is less than the "Total Area Managed %", this indicates that the conservation estate does a poorer job than a random placement of managed lands. Conversely, if the "Sum\* Total Managed %" exceeds that of the "Total Area Managed %", then the conservation estate does a better job than a random placement of the conservation estate.